

# Statement of Basis of the Federal Operating Permit

Freeport LNG Development, L.P.

Site Name: Freeport LNG Pretreatment Facility

Physical Location: 2363 CR 690

Nearest City: Freeport

County: Brazoria

Permit Number: O3958

Project Type: Initial Issuance

Standard Industrial Classification (SIC) Code: 1321

SIC Name: Natural Gas Liquids

This Statement of Basis sets forth the legal and factual basis for the draft permit conditions in accordance with 30 TAC §122.201(a)(4). An application for initial permit issuance has been submitted in accordance with 30 TAC § 122.201. This document may include the following information:

- A description of the facility/area process description;
- A basis for applying permit shields;
- A list of the federal regulatory applicability determinations;
- A table listing the determination of applicable requirements;
- A list of the New Source Review Requirements;
- The rationale for periodic monitoring methods selected;
- The rationale for compliance assurance methods selected;
- A compliance status; and
- A list of available unit attribute forms.

Prepared on: August 3, 2017

## **Operating Permit Basis of Determination**

### **Permit Area Process Description**

Freeport LNG's Pretreatment Facility is located approximately 3.5 miles inland to the northeast of the Quintana Island Freeport LNG Liquefaction Plant. The Pretreatment Facility is comprised of the following: Three (3) natural gas pretreatment systems and associated Natural Gas Liquid (NGL) removal units; emergency warm and cold flare systems; combustion turbine/waste heat recovery system; backup air compressors; emergency generators; and firewater pump systems.

Each natural gas pretreatment system for Trains 1 through 3 also includes the following: amine sweetening system and associated Regenerative Thermal Oxidizer (RTO) to remove carbon dioxide (CO<sub>2</sub>) and sulfur compounds; molecular sieve dehydration system to remove water from the incoming natural gas stream; mercury removal unit (in-line unit); additional electrical compression units and connecting laterals for natural gas supply to the Liquefaction Plant; and miscellaneous storage vessels.

Raw pipeline gas arrives at Freeport LNG's existing Stratton Ridge meter station located at a separate site upstream of the Pretreatment Facility. The gas flows from the metering station, through Freeport LNG's existing 42-inch pipeline, and into the Pretreatment Facility where it is compressed by electrically powered booster compressors before being diverted to each of the three pretreatment trains. Each train has a rated capacity of 740 million standard cubic feet per day (MMscfd) of incoming natural gas treatment capacity.

In each pretreatment train, the natural gas is first metered and filtered. Further downstream, mercury is removed to protect aluminum-based heat exchangers. The gas is then compressed to meet the downstream NGL recovery plant requirements. Following compression, an amine unit removes CO<sub>2</sub>, hydrogen sulfide (H<sub>2</sub>S) and other sulfur and light organic compounds in order to satisfy the downstream liquefaction system requirements. Stripped CO<sub>2</sub>, H<sub>2</sub>S, and the other sulfur and organic compounds in the stream are routed to RTOs -- one per train.

After compression and amine treatment, water is removed from the natural gas in a molecular sieve dehydration system. The treated gas is then sent to a NGL recovery system which removes heavy hydrocarbons (i.e., C<sub>5</sub>+ components) from the dry, treated gas prior to liquefaction. The NGL Recovery Unit is designed to remove heavier hydrocarbon components from the natural gas feed to make it suitable for liquefaction. Incoming gas is cooled in the Gas-Gas Exchanger and then depressurized in the expander section of the Expander/Compressor. The cooled mixed vapor-liquid phase stream is fed to the Absorber. The Absorber overhead stream forms the larger portion of the total treated gas sent to the liquefaction unit after cold recovery, mixing with the Deethanizer overhead gas, and compression. The bottoms stream from the Absorber is sent to the Deethanizer. The Deethanizer overhead system provides reflux to the Deethanizer and Absorber. The bottoms from the Deethanizer is sent to the Debutanizer where the butane (C<sub>4</sub>) and lighter components are removed and the bottom stream is the pentane (C<sub>5</sub>) and heavier product stream. The bottom product stream is sent to the NGL Product Surge Drum and then pumped as NGL product to the nearby storage and trucking facility outside of the battery limits of Pretreatment facility.

The residue gas from the gas-gas exchanger is sent to the dehydration feed cooler for energy recovery before being compressed by the residue gas compressors and cooled for transportation via pipeline to the liquefaction units on Quintana Island.

In case of emergencies or during maintenance activities, vapor reliefs of fluids lighter than air is collected in a flare header and routed to the cold flare scrubber (knock-out pot). The scrubber knocks out any liquids generated during relief conditions. Vapor from the scrubber flows to the Cold Flare. Any liquids (water or hydrocarbon) collected at the inlet separator, inlet filter coalescer, amine flash drum, low pressure fuel scrubber, or the cold flare scrubber is routed to slop oil and oily-water tanks. The closed drain drums vent to the Warm Flare. The site also includes stormceptor units to capture stormwater, spills, or exterior surface cleanup waters.

Trains 1 through 3 are supported by five heating medium heaters at the Pretreatment Facility. The heaters operate in coordination with the combustion turbine Waste Heat Recovery Unit. The Waste Heat Recovery Unit is used to transfer heat to the heating medium oil. The hot oil is used in the amine sweetening units, dehydration system units and NGL Recovery Units. The Heating Medium Heaters are used to supplement or replace the energy from the Gas Turbine Waste

Heat Recovery Unit. When the Combustion Turbine is in operation, only one of these heaters is operational. The use of all five heaters simultaneously may be necessary only when the Combustion Turbine is not operational.

The RTOs are equipped with gas-fired, low-NOx burners that are typically used for initial unit start-up (cold-start) only. Once the burners heat the RTOs to the required operating temperature and the heat content of the incoming process gas stream is sufficient to sustain combustion, the burners are shut off. Due to the abundant oxygen content of the process gas, complete combustion readily occurs when the ignition point is reached in the oxidizer. Boil off gas (BOG) or natural gas is fired, as necessary, to supplement the combustion heat requirements of the RTOs and maintain the proper combustion temperatures.

Freeport LNG utilizes a Ground Flare system to serve the three gas processing trains at the site. The Ground Flare consists of a Warm Flare System and a Cold Flare System. Both the Warm and Cold Flare Systems are pressure-assisted, multi-point ground flares that are located in a common enclosed radiation reduction fence. The Ground Flare system is used to control vent streams associated with the following: Maintenance, start-up, and shutdown (MSS) activities; Pressure safety valves (PSVs), compressor seals, and pump seals for Trains 1 through 3.

The Pretreatment Facility includes one General Electric (GE) Frame 7EA simple cycle, natural gas-fired Combustion Turbine exhausting to a heat exchanger for waste heat recovery. The Combustion Turbine has a nominal base-load gross electric power output of approximately 87 megawatts. The Waste Heat Recovery Unit is used to transfer heat to the heating medium oil. The hot oil is used in the amine sweetening units, dehydration system units and NGL Recovery Units in lieu of burning natural gas fuel in these units. Freeport LNG uses a dry low NOx combustor and Selective Catalytic Reduction (SCR) to reduce NOx emissions from the Combustion Turbine system. The SCR uses aqueous ammonia as the reagent, where the catalyst facilitates the reaction of the ammonia with NOx to create nitrogen and water. Emissions of carbon monoxide (CO) and volatile organic compounds (VOCs) are controlled by an Oxidation Catalyst (Ox-Cat).

The Combustion Turbine, Booster Compressors and Residue Gas Compressors include closed-loop lubrication oil recirculation systems to lubricate moving parts of the equipment. Oil vapor (as VOC) and oil mist (as particulate matter [PM]) emissions may be generated by oil vaporization resulting from heating of the lubrication oil in the equipment and subsequent condensation of the droplets when the vapor is cooled in the cooler zones of the storage reservoir compartments. Lubrication oil mist emissions from each reservoir compartment are controlled by a mist eliminator exhausted through dedicated reservoir vents.

In support of the operations at the site, six emergency generator engines are available to serve as a reliable power source for lighting and other emergency equipment in the event of a power failure. Two emergency firewater pumps powered by diesel-fired engines and two backup air compressors powered by diesel-fired engines are included at the site for emergency situations. Each emergency generator engine and emergency air compressor engine is fired with ultra-low sulfur diesel fuel and is limited to 50 hours/year (hrs/yr) for purposes of maintenance and testing. Each firewater pump engine is fired with ultra-low sulfur diesel fuel and is limited to 100 hrs/yr of operation for purposes of maintenance and testing.

Ultralow sulfur diesel fuel for the emergency engines is stored in small, day tanks integral or adjacent to the emergency generator, backup air compressor, and firewater pump engines. The day tanks are fixed roof tanks that are maintained with fuel in them at all times, in case of emergency. The engines consume diesel fuel during periodic testing or during an emergency situation, and therefore, the associated diesel day tanks are refilled periodically.

The following miscellaneous storage tanks are utilized at the Pretreatment Facility:

- Heat medium (Dowtherm or equivalent) storage tanks;
- Slop oil storage tanks;
- Oily water storage tanks;
- Firewater storage tank;
- Amine storage tank;
- Ammonia storage tank;
- Ammonia day tank;
- Anti-Foam injection storage tank; and
- Treatment water storage tanks.

The heat medium storage tanks, amine storage tank, and ammonia storage tanks are refilled periodically via tanker trucks. The slop oil storage tanks and oily water storage tanks are emptied via tanker trucks.

The Pretreatment Facility includes a cold solvent cleaner. To the extent possible, Freeport LNG utilizes leak free valves and pumps so as to minimize fugitive emissions. Although not listed, the Pretreatment Facility also includes 19 off-permit emission units. These units have no applicable requirements and are not specifically addressed in this permit.

### FOPs at Site

The “application area” consists of the emission units and that portion of the site included in the application and this permit. Multiple FOPs may be issued to a site in accordance with 30 TAC § 122.201(e). When there is only one area for the site, then the application information and permit will include all units at the site. Additional FOPs that exist at the site, if any, are listed below.

Additional FOPs: None

### Major Source Pollutants

The table below specifies the pollutants for which the site is a major source:

Major Pollutants	NOX
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### Reading State of Texas’s Federal Operating Permit

The Title V Federal Operating Permit (FOP) lists all state and federal air emission regulations and New Source Review (NSR) authorizations (collectively known as “applicable requirements”) that apply at a particular site or permit area (in the event a site has multiple FOPs). **The FOP does not authorize new emissions or new construction activities.** The FOP begins with an introductory page which is common to all Title V permits. This page gives the details of the company, states the authority of the issuing agency, requires the company to operate in accordance with this permit and 30 Texas Administrative Code (TAC) Chapter 122, requires adherence with NSR requirements of 30 TAC Chapter 116, and finally indicates the permit number and the issuance date.

This is followed by the table of contents, which is generally composed of the following elements. Not all permits will have all of the elements.

- General Terms and Conditions
- Special Terms and Conditions
  - Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting
  - Additional Monitoring Requirements
  - New Source Review Authorization Requirements
  - Compliance Requirements
  - Protection of Stratosphere Ozone
  - Permit Location
  - Permit Shield (30 TAC § 122.148)
- Attachments
  - Applicable Requirements Summary
    - Unit Summary
    - Applicable Requirements Summary
  - Additional Monitoring Requirements
  - Permit Shield
  - New Source Review Authorization References
  - Compliance Plan
  - Alternative Requirements
- Appendix A

- Acronym list
- Appendix B
  - Copies of major NSR authorizations

## General Terms and Conditions

The General Terms and Conditions are the same and appear in all permits. The first paragraph lists the specific citations for 30 TAC Chapter 122 requirements that apply to all Title V permit holders. The second paragraph describes the requirements for record retention. The third paragraph provides details for voiding the permit, if applicable. The fourth paragraph states that the permit holder shall comply with the requirements of 30 TAC Chapter 116 by obtaining a New Source Review authorization prior to new construction or modification of emission units located in the area covered by this permit. The fifth paragraph provides details on submission of reports required by the permit.

## Special Terms and Conditions

Emissions Limitations and Standards, Monitoring and Testing, and Recordkeeping and Reporting. The TCEQ has designated certain applicable requirements as site-wide requirements. A site-wide requirement is a requirement that applies uniformly to all the units or activities at the site. Units with only site-wide requirements are addressed on Form OP-REQ1 and are not required to be listed separately on a OP-UA Form or Form OP-SUM. Form OP-SUM must list all units addressed in the application and provide identifying information, applicable OP-UA Forms, and preconstruction authorizations. The various OP-UA Forms provide the characteristics of each unit from which applicable requirements are established. Some exceptions exist as a few units may have both site-wide requirements and unit specific requirements.

Other conditions. The other entries under special terms and conditions are in general terms referring to compliance with the more detailed data listed in the attachments.

## Attachments

Applicable Requirements Summary. The first attachment, the Applicable Requirements Summary, has two tables, addressing unit specific requirements. The first table, the Unit Summary, includes a list of units with applicable requirements, the unit type, the applicable regulation, and the requirement driver. The intent of the requirement driver is to inform the reader that a given unit may have several different operating scenarios and the differences between those operating scenarios.

The applicable requirements summary table provides the detailed citations of the rules that apply to the various units. For each unit and operating scenario, there is an added modifier called the "index number," detailed citations specifying monitoring and testing requirements, recordkeeping requirements, and reporting requirements. The data for this table are based on data supplied by the applicant on the OP-SUM and various OP-UA forms.

Additional Monitoring Requirement. The next attachment includes additional monitoring the applicant must perform to ensure compliance with the applicable standard. Compliance assurance monitoring (CAM) is often required to provide a reasonable assurance of compliance with applicable emission limitations/standards for large emission units that use control devices to achieve compliance with applicant requirements. When necessary, periodic monitoring (PM) requirements are specified for certain parameters (i.e. feed rates, flow rates, temperature, fuel type and consumption, etc.) to determine if a term and condition or emission unit is operating within specified limits to control emissions. These additional monitoring approaches may be required for two reasons. First, the applicable rules do not adequately specify monitoring requirements (exception- Maximum Achievable Control Technology Standards (MACTs) generally have sufficient monitoring), and second, monitoring may be required to fill gaps in the monitoring requirements of certain applicable requirements. In situations where the NSR permit is the applicable requirement requiring extra monitoring for a specific emission unit, the preferred solution is to have the monitoring requirements in the NSR permit updated so that all NSR requirements are consolidated in the NSR permit.

Permit Shield. A permit may or may not have a permit shield, depending on whether an applicant has applied for, and justified the granting of, a permit shield. A permit shield is a special condition included in the permit document stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirement(s) or specified applicable state-only requirement(s).

New Source Review Authorization References. All activities which are related to emissions in the state of Texas must have a NSR authorization prior to beginning construction. This section lists all units in the permit and the NSR authorization that allowed the unit to be constructed or modified. Units that do not have unit specific applicable requirements other than the NSR authorization do not need to be listed in this attachment. While NSR permits are not physically a part of the Title V permit, they are legally incorporated into the Title V permit by reference. Those NSR permits whose emissions exceed certain PSD/NA thresholds must also undergo a Federal review of federally regulated pollutants in addition to review for state regulated pollutants.

Compliance Plan. A permit may have a compliance schedule attachment for listing corrective actions plans for any emission unit that is out of compliance with an applicable requirement.

Alternative Requirements. This attachment will list any alternative monitoring plans or alternative means of compliance for applicable requirements that have been approved by the EPA Administrator and/or the TCEQ Executive Director.

## Appendix A

Acronym list. This attachment lists the common acronyms used when discussing the FOPs.

## Appendix B

Copies of major NSR authorizations applicable to the units covered by this permit have been included in this Appendix, to ensure that all interested persons can access those authorizations.

### **Stationary vents subject to 30 TAC Chapter 111, Subchapter A, § 111.111(a)(1)(B) addressed in the Special Terms and Conditions**

The site contains stationary vents with a flowrate less than 100,000 actual cubic feet per minute (acfm) and constructed after January 31, 1972 which are limited, over a six-minute average, to 20% opacity as required by 30 TAC § 111.111(a)(1)(B). As a site may have a large number of stationary vents that fall into this category, they are not required to be listed individually in the permit's Applicable Requirement Summary. This is consistent with EPA's White Paper for Streamlined Development of Part 70 Permit Applications, July 10, 1995, that states that requirements that apply identically to emission units at a site can be treated on a generic basis such as source-wide opacity limits.

Periodic monitoring is specified in Special Term and Condition 3 for stationary vents subject to 30 TAC § 111.111(a)(1)(B) to verify compliance with the 20% opacity limit. These vents are not expected to produce visible emissions during normal operation. The TCEQ evaluated the probability of these sources violating the opacity standards and determined that there is a very low potential that an opacity standard would be exceeded. It was determined that continuous monitoring for these sources is not warranted as there would be very limited environmental benefit in continuously monitoring sources that have a low potential to produce visible emissions. Therefore, the TCEQ set the visible observation monitoring frequency for these sources to once per calendar quarter.

The TCEQ has exempted vents that are not capable of producing visible emissions from periodic monitoring requirements. These vents include sources of colorless VOCs, non-fuming liquids, and other materials that cannot produce emissions that obstruct the transmission of light. Passive ventilation vents, such as plumbing vents, are also included in this category. Since this category of vents are not capable of producing opacity due to the physical or chemical characteristics of the emission source, periodic monitoring is not required as it would not yield any additional data to assure compliance with the 20% opacity standard of 30 TAC § 111.111(a)(1)(B).

In the event that visible emissions are detected, either through the quarterly observation or other credible evidence, such as observations from company personnel, the permit holder shall either report a deviation or perform a Test Method 9 observation to determine the opacity consistent with the 6-minute averaging time specified in 30 TAC § 111.111(a)(1)(B). An additional provision is included to monitor combustion sources more frequently than quarterly if alternate fuels are burned for periods greater than 24 consecutive hours. This will address possible emissions that may arise when switching fuel types.

### **Federal Regulatory Applicability Determinations**

The following chart summarizes the applicability of the principal air pollution regulatory programs to the permit area:

Regulatory Program	Applicability (Yes/No)
Prevention of Significant Deterioration (PSD)	No
Nonattainment New Source Review (NNSR)	Yes
Minor NSR	Yes
40 CFR Part 60 - New Source Performance Standards	Yes
40 CFR Part 61 - National Emission Standards for Hazardous Air Pollutants (NESHAPs)	No
40 CFR Part 63 - NESHAPs for Source Categories	Yes
Title IV (Acid Rain) of the Clean Air Act (CAA)	No
Title V (Federal Operating Permits) of the CAA	Yes
Title VI (Stratospheric Ozone Protection) of the CAA	No
CSAPR (Cross-State Air Pollution Rule)	No

### Basis for Applying Permit Shields

An operating permit applicant has the opportunity to specifically request a permit shield to document that specific applicable requirements do not apply to emission units in the permit. A permit shield is a special condition stating that compliance with the conditions of the permit shall be deemed compliance with the specified potentially applicable requirements or specified potentially applicable state-only requirements. A permit shield has been requested in the application for specific emission units. For the permit shield requests that have been approved, the basis of determination for regulations that the owner/operator need not comply with are located in the "Permit Shield" attachment of the permit.

### Insignificant Activities

In general, units not meeting the criteria for inclusion on either Form OP-SUM or Form OP-REQ1 are not required to be addressed in the operating permit application. Examples of these types of units include, but are not limited to, the following:

1. Office activities such as photocopying, blueprint copying, and photographic processes.
2. Sanitary sewage collection and treatment facilities other than those used to incinerate wastewater treatment plant sludge. Stacks or vents for sanitary sewer plumbing traps are also included.
3. Food preparation facilities including, but not limited to, restaurants and cafeterias used for preparing food or beverages primarily for consumption on the premises.
4. Outdoor barbecue pits, campfires, and fireplaces.
5. Laundry dryers, extractors, and tumblers processing bedding, clothing, or other fabric items generated primarily at the premises. This does not include emissions from dry cleaning systems using perchloroethylene or petroleum solvents.
6. Facilities storing only dry, sweet natural gas, including natural gas pressure regulator vents.
7. Any air separation or other industrial gas production, storage, or packaging facility. Industrial gases, for purposes of this list, include only oxygen, nitrogen, helium, neon, argon, krypton, and xenon.

8. Storage and handling of sealed portable containers, cylinders, or sealed drums.
9. Vehicle exhaust from maintenance or repair shops.
10. Storage and use of non-VOC products or equipment for maintaining motor vehicles operated at the site (including but not limited to, antifreeze and fuel additives).
11. Air contaminant detectors and recorders, combustion controllers and shut-off devices, product analyzers, laboratory analyzers, continuous emissions monitors, other analyzers and monitors, and emissions associated with sampling activities. Exception to this category includes sampling activities that are deemed fugitive emissions and under a regulatory leak detection and repair program.
12. Bench scale laboratory equipment and laboratory equipment used exclusively for chemical and physical analysis, including but not limited to, assorted vacuum producing devices and laboratory fume hoods.
13. Steam vents, steam leaks, and steam safety relief valves, provided the steam (or boiler feedwater) has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
14. Storage of water that has not contacted other materials or fluids containing regulated air pollutants other than boiler water treatment chemicals.
15. Well cellars.
16. Fire or emergency response equipment and training, including but not limited to, use of fire control equipment including equipment testing and training, and open burning of materials or fuels associated with firefighting training.
17. Crucible or pot furnaces with a brim full capacity of less than 450 cubic inches of any molten metal.
18. Equipment used exclusively for the melting or application of wax.
19. All closed tumblers used for the cleaning or deburring of metal products without abrasive blasting, and all open tumblers with a batch capacity of 1,000 lbs. or less.
20. Shell core and shell mold manufacturing machines.
21. Sand or investment molds with a capacity of 100 lbs. or less used for the casting of metals;
22. Equipment used for inspection of metal products.
23. Equipment used exclusively for rolling, forging, pressing, drawing, spinning, or extruding either hot or cold metals by some mechanical means.
24. Instrument systems utilizing air, natural gas, nitrogen, oxygen, carbon dioxide, helium, neon, argon, krypton, and xenon.
25. Battery recharging areas.
26. Brazing, soldering, or welding equipment.

### **Determination of Applicable Requirements**

The tables below include the applicability determinations for the emission units, the index number(s) where applicable, and all relevant unit attribute information used to form the basis of the applicability determination. The unit attribute information is a description of the physical properties of an emission unit which is used to determine the requirements to which the permit holder must comply. For more information about the descriptions of the unit attributes specific Unit Attribute Forms may be viewed at [www.tceq.texas.gov/permitting/air/nav/air\\_all\\_ua\\_forms.html](http://www.tceq.texas.gov/permitting/air/nav/air_all_ua_forms.html).

A list of unit attribute forms is included at the end of this document. Some examples of unit attributes include construction date; product stored in a tank; boiler fuel type; etc.. Generally, multiple attributes are needed to determine the requirements for a given emission unit and index number. The table below lists these attributes in the column entitled "Basis of Determination." Attributes that demonstrate that an applicable requirement applies will be the factual basis for the specific citations in an applicable requirement that apply to a unit for that index number. The TCEQ Air Permits Division has developed flowcharts for determining applicability of state and federal regulations based on the unit attribute information in a Decision Support System (DSS). These flowcharts can be accessed via the internet at [www.tceq.texas.gov/permitting/air/nav/air\\_supportsys.html](http://www.tceq.texas.gov/permitting/air/nav/air_supportsys.html). The Air Permits Division staff may also be contacted for assistance at (512) 239-1250.

The attributes for each unit and corresponding index number provide the basis for determining the specific legal citations in an applicable requirement that apply, including emission limitations or standards, monitoring, recordkeeping, and reporting. The rules were found to apply or not apply by using the unit attributes as answers to decision questions found in the flowcharts of the DSS. Some additional attributes indicate which legal citations of a rule apply. The legal citations that apply to each emission unit may be found in the Applicable Requirements Summary table of the draft permit. There may be some entries or rows of units and rules not found in the permit, or if the permit contains a permit shield, repeated



in the permit shield area. These are sets of attributes that describe negative applicability, or; in other words, the reason why a potentially applicable requirement does not apply.

If applicability determinations have been made which differ from the available flowcharts, an explanation of the decisions involved in the applicability determination is specified in the column "Changes and Exceptions to RRT." If there were no exceptions to the DSS, then this column has been removed.

The draft permit includes all emission limitations or standards, monitoring, recordkeeping and reporting required by each applicable requirement. If an applicable requirement does not require monitoring, recordkeeping, or reporting, the word "None" will appear in the Applicable Requirements Summary table. If additional periodic monitoring is required for an applicable requirement, it will be explained in detail in the portion of this document entitled "Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected."

When attributes demonstrate that a unit is not subject to an applicable requirement, the applicant may request a permit shield for those items. The portion of this document entitled "Basis for Applying Permit Shields" specifies which units, if any, have a permit shield.

#### Operational Flexibility

When an emission unit has multiple operating scenarios, it will have a different index number associated with each operating condition. This means that units are permitted to operate under multiple operating conditions. The applicable requirements for each operating condition are determined by a unique set of unit attributes. For example, a tank may store two different products at different points in time. The tank may, therefore, need to comply with two distinct sets of requirements, depending on the product that is stored. Both sets of requirements are included in the permit, so that the permit holder may store either product in the tank.

### Determination of Applicable Requirements

Unit ID	Regulation	Index Number	Basis of Determination*
GRP-FWP	30 TAC Chapter 117, Subchapter B	R7310-ENGINE	Type of Service = New, modified, reconstructed or relocated diesel fuel-fired engine, placed into service on or after October 1, 2001, located in the Houston/Galveston/Brazoria ozone nonattainment area, operated less than 100 hours/year, on a rolling 12-month average
GRP-FWP	40 CFR Part 60, Subpart IIII	60IIII-PTFFWP	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after 07/11/2005.</p> <p>Diesel = Diesel fuel is used.</p> <p>Kilowatts = Power rating is greater than or equal to 130 KW and less than or equal to 368 KW.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Displacement = Displacement is less than 10 liters per cylinder.</p> <p>Service = CI ICE is a fire-pump engine, an emergency engine certified to National Fire Protection Association requirements.</p> <p>Standards = The emergency CI ICE does not meet the standards applicable to non-emergency engines.</p> <p>Commencing = CI ICE was newly constructed after 07/11/2005.</p> <p>Compliance Option = The CI ICE and control device is installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions.</p> <p>Manufacture Date = Date of manufacture was after 07/01/2006.</p> <p>Model Year = CI ICE was manufactured in model year 2017 or later.</p>
GRP-FWP	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-PTFFWP	<p>HAP Source = Any stationary source of hazardous air pollutants that is not a major source as defined in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake HP greater than or equal to 300 HP and less than or equal to 500 HP.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p>
GRP-LEG	30 TAC Chapter 117, Subchapter B	R7310-ENGINE	Type of Service = New, modified, reconstructed or relocated diesel fuel-fired engine, placed into service on or after October 1, 2001, located in the Houston/Galveston/Brazoria ozone nonattainment area, operated less than 100 hours/year, on a rolling 12-month average
GRP-LEG	40 CFR Part 60, Subpart IIII	60IIII-PTFLEG	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after 07/11/2005.</p> <p>Diesel = Diesel fuel is used.</p> <p>Kilowatts = Power rating is greater than 560 KW and less than or equal to 2237 KW.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Displacement = Displacement is less than 10 liters per cylinder and engine is a constant-speed engine.</p> <p>Service = CI ICE is an emergency engine.</p> <p>Standards = The emergency CI ICE does not meet the standards applicable to non-emergency engines.</p> <p>Commencing = CI ICE was newly constructed after 07/11/2005.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>Compliance Option = The CI ICE and control device is installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions.</p> <p>Manufacture Date = Date of manufacture was after 04/01/2006.</p> <p>Model Year = CI ICE was manufactured in model year 2017 or later.</p>
GRP-LEG	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-ENGINE	<p>HAP Source = Any stationary source of hazardous air pollutants that is not a major source as defined in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake HP greater than 500 HP.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p>
GRP-SEG	30 TAC Chapter 117, Subchapter B	R7310-ENGINE	Type of Service = New, modified, reconstructed or relocated diesel fuel-fired engine, placed into service on or after October 1, 2001, located in the Houston/Galveston/Brazoria ozone nonattainment area, operated less than 100 hours/year, on a rolling 12-month average
GRP-SEG	40 CFR Part 60, Subpart IIII	60IIII-PTFSEG	<p>Applicability Date = Stationary CI ICE commenced construction, reconstruction, or modification after 07/11/2005.</p> <p>Diesel = Diesel fuel is used.</p> <p>Kilowatts = Power rating greater than or equal to 368 KW and less than or equal to 560KW.</p> <p>Exemptions = The CI ICE is not exempt due to national security, testing at an engine test cell/stand or as a temporary replacement.</p> <p>Displacement = Displacement is less than 10 liters per cylinder and engine is a constant-speed engine.</p> <p>Service = CI ICE is an emergency engine.</p> <p>Standards = The emergency CI ICE does not meet the standards applicable to non-emergency engines.</p> <p>Commencing = CI ICE was newly constructed after 07/11/2005.</p> <p>Compliance Option = The CI ICE and control device is installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions.</p> <p>Manufacture Date = Date of manufacture was after 04/01/2006.</p> <p>Model Year = CI ICE was manufactured in model year 2017 or later.</p>
GRP-SEG	40 CFR Part 63, Subpart ZZZZ	63ZZZZ-ENGINE	<p>HAP Source = Any stationary source of hazardous air pollutants that is not a major source as defined in 40 CFR § 63.2.</p> <p>Brake HP = Stationary RICE with a brake HP greater than 500 HP.</p> <p>Construction/Reconstruction Date = Commenced construction or reconstruction on or after June 12, 2006.</p>
67T-90	30 TAC Chapter 115, Storage of VOCs	R5112-AMNTK	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is less than 1.0 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 40,000 gallons</p>

Unit ID	Regulation	Index Number	Basis of Determination*
67T-90	40 CFR Part 60, Subpart Kb	60KB-AMNTK	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 0.5 psia
GRP-HMTK	30 TAC Chapter 115, Storage of VOCs	R5112-HMTK	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 40,000 gallons
GRP-HMTK	40 CFR Part 60, Subpart Kb	60KB-HMTK	Product Stored = Volatile organic liquid Storage Capacity = Capacity is greater than or equal to 39,900 gallons (151,000 liters) Maximum True Vapor Pressure = True vapor pressure is less than 0.5 psia
GRP-LGDTK	30 TAC Chapter 115, Storage of VOCs	R5112-LDIESELTK	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank does not require emission controls True Vapor Pressure = True vapor pressure is less than 1.0 psia Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
GRP-LGDTK	40 CFR Part 60, Subpart Kb	60KB-LDIESELTK	Product Stored = Petroleum liquid (other than petroleum or condensate) Storage Capacity = Capacity is less than 10,600 gallons (40,000 liters)
GRP-SMDTK	30 TAC Chapter 115, Storage of VOCs	R5112-SDIESELTK	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Product Stored = VOC other than crude oil or condensate Storage Capacity = Capacity is less than or equal to 1,000 gallons
GRP-SMDTK	40 CFR Part 60, Subpart Kb	60KB-SDIESELTK	Product Stored = Petroleum liquid (other than petroleum or condensate) Storage Capacity = Capacity is less than 10,600 gallons (40,000 liters)
PTFOWT	30 TAC Chapter 115, Storage of VOCs	R5112-OILWTRTK1	Today's Date = Today's date is March 1, 2013 or later. Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria. Tank Description = Tank using a submerged fill pipe

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
PTFOWT	30 TAC Chapter 115, Storage of VOCs	R5112-OILWTRTK2	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
PTFOWT	40 CFR Part 60, Subpart Kb	60KB-OILWTRTK	<p>Product Stored = Volatile organic liquid</p> <p>Storage Capacity = Capacity is less than 10,600 gallons (40,000 liters)</p>
PTFOWT-T4	30 TAC Chapter 115, Storage of VOCs	R5112-OILWTRTK1	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
PTFOWT-T4	30 TAC Chapter 115, Storage of VOCs	R5112-OILWTRTK2	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
PTFOWT-T4	40 CFR Part 60, Subpart Kb	60KB-OILWTRTK	<p>Product Stored = Volatile organic liquid</p> <p>Storage Capacity = Capacity is less than 10,600 gallons (40,000 liters)</p>
PTFSOT	30 TAC Chapter 115, Storage of VOCs	R5112-OILCNDTK1	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons
PTFSOT	30 TAC Chapter 115, Storage of VOCs	R5112-OILCNDTK2	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
PTFSOT	40 CFR Part 60, Subpart Kb	60KB-OILCNDTK	<p>Product Stored = Volatile organic liquid</p> <p>Storage Capacity = Capacity is less than 10,600 gallons (40,000 liters)</p>
PTFSOT-T4	30 TAC Chapter 115, Storage of VOCs	R5112-OILCNDTK1	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank using a submerged fill pipe</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
PTFSOT-T4	30 TAC Chapter 115, Storage of VOCs	R5112-OILCNDTK2	<p>Today's Date = Today's date is March 1, 2013 or later.</p> <p>Alternate Control Requirement = Not using an alternate method for demonstrating and documenting continuous compliance with applicable control requirements or exemption criteria.</p> <p>Tank Description = Tank does not require emission controls</p> <p>True Vapor Pressure = True vapor pressure is greater than or equal to 1.0 psia but less than 1.5 psia</p> <p>Product Stored = VOC other than crude oil or condensate</p> <p>Storage Capacity = Capacity is greater than 1,000 gallons but less than or equal to 25,000 gallons</p>
PTFSOT-T4	40 CFR Part 60, Subpart Kb	60KB-OILCNDTK	<p>Product Stored = Volatile organic liquid</p> <p>Storage Capacity = Capacity is less than 10,600 gallons (40,000 liters)</p>
67T-90	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-AMNTK	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Only unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
GRP-DIESLD	30 TAC Chapter 115,	R5211-LVPTK	Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle

Unit ID	Regulation	Index Number	Basis of Determination*
	Loading and Unloading of VOC		<p>fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Only unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
GRP-HMLD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-LVPTK	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Only unloading.</p> <p>True Vapor Pressure = True vapor pressure less than 0.5 psia.</p>
GRP-OILLD	30 TAC Chapter 115, Loading and Unloading of VOC	R5211-OILTK	<p>Chapter 115 Facility Type = Facility type other than a gasoline terminal, gasoline bulk plant, motor vehicle fuel dispensing facility or marine terminal.</p> <p>Alternate Control Requirement (ACR) = No alternate control requirements are being utilized.</p> <p>Product Transferred = Volatile organic compounds other than liquefied petroleum gas and gasoline.</p> <p>Transfer Type = Only loading.</p> <p>True Vapor Pressure = True vapor pressure greater than or equal to 0.5 psia.</p> <p>Daily Throughput = Loading less than 20,000 gallons per day.</p>
GRP-HTR	30 TAC Chapter 117, Subchapter B	R7201-HTR	<p>Diluent CEMS = The process heater does not use a carbon dioxide CEMS to monitor diluent.</p> <p>Fuel Flow Monitoring = Fuel flow is monitored with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a).</p> <p>Unit Type = Process heater</p> <p>CO Emission Limitation = Title 30 TAC § 117.310(c)(1) 400 ppmv option</p> <p>Maximum Rated Capacity = Maximum rated capacity is at least 100 MMBtu/hr, but less than 200 MMBtu/hr.</p> <p>CO Monitoring System = Emissions are monitored using methods other than CEMS or PEMS.</p> <p>NOx Emission Limit Basis = Emission limit in lb/MMBtu on a rolling 30-day average</p> <p>NOx Reduction = Induced flue gas recirculation</p> <p>Fuel Type #1 = Natural gas</p> <p>NOx Monitoring System = Continuous emissions monitoring system</p> <p>Annual Heat Input = Annual heat input is greater than 2.2(10<sup>11</sup>) Btu/yr, based on a rolling 12-month average.</p> <p>NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(8)</p>
GRP-HTR	40 CFR Part 60, Subpart Db	60Db-HTR	<p>60.42b(k)(2) Low Sulfur Exemption = The § 60.42b(k)(2) exemption applies.</p> <p>Construction/Modification Date = Constructed or reconstructed after February 28, 2005.</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>D-Series Fuel Type #1 = Natural gas.</p> <p>Heat Input Capacity = Heat input capacity is greater than 100 MMBtu/hr (29 MW) but less than or equal to 250 MMBtu/hr (73 MW).</p> <p>PM Monitoring Type = No particulate monitoring.</p> <p>Opacity Monitoring Type = No particulate (opacity) monitoring.</p> <p>Subpart Da = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart Da.</p> <p>Changes to Existing Affected Facility = No change has been made to the existing steam generating unit, which was not previously subject to 40 CFR Part 60, Subpart Db, for the sole purpose of combusting gases containing totally reduced sulfur as defined under 40 CFR § 60.281.</p> <p>NOx Monitoring Type = Continuous emission monitoring system.</p> <p>Electrical or Mechanical Output = 10% or less of the annual output is electrical or mechanical.</p> <p>SO2 Monitoring Type = No SO<sub>2</sub> monitoring.</p> <p>Subpart Ea, Eb or AAAA = The affected facility does not meet applicability requirements of and is subject to 40 CFR Part 60, Subpart Ea, Eb or AAAA.</p> <p>Subpart J = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart J.</p> <p>Subpart E = The affected facility does not meet applicability requirements of 40 CFR Part 60, Subpart E.</p> <p>Subpart KKKK = The affected facility is not a heat recovery steam generator associated with combined cycle gas turbines and that meets applicability requirements of and is subject to 40 CFR Part 60, Subpart KKKK.</p> <p>Technology Type = None.</p> <p>ACF Option - SO2 = Other ACF or no ACF.</p> <p>Subpart Cb or BBBB = The affected facility is not covered by an EPA approved State or Federal section 111(d)/129 plan implementing 40 CFR Part 60, Subpart Cb or BBBB emission guidelines.</p> <p>Unit Type = OTHER UNIT TYPE</p> <p>ACF Option - PM = Other ACF or no ACF.</p> <p>Heat Release Rate = Natural gas with a heat release rate less than or equal to 70 MBtu/hr/ft<sup>3</sup>.</p> <p>60.49Da(n) Alternative = The facility is not using the § 60.49Da(n) alternative.</p> <p>ACF Option - NOx = Other ACF or no ACF.</p> <p>Heat Input Gas/Oil = The facility combusts natural gas or distillate oil in excess of 30% of the heat input from the combustion of all fuels.</p> <p>60.49Da(m) Alternative = The facility is not using the § 60.49Da(m) alternative.</p>
PTFFLARE	30 TAC Chapter 111, Visible Emissions	R1111-FLARE	<p>Acid Gases Only = Flare is not used only as an acid gas flare as defined in 30 TAC § 101.1.</p> <p>Emergency/Upset Conditions Only = Flare is used under conditions other than emergency or upset conditions.</p>
PTFFLARE	40 CFR Part 60, Subpart A	60A-FLARE	Subject to 40 CFR § 60.18 = Flare is not subject to 40 CFR § 60.18.
PTFFLARE	40 CFR Part 63,	63A-FLARE	Required Under 40 CFR Part 63 = Flare is not required by a Subpart under 40 CFR Part 63.



Unit ID	Regulation	Index Number	Basis of Determination*
	Subpart A		
GRP-AU123	30 TAC Chapter 112, Sulfur Compounds	R200-AMINE	Sulfur Recovery Plant = The gas sweetening unit is not using sulfur recovery.
GRP-AU123	40 CFR Part 60, Subpart LLL	60LLL-AMINE	Onshore = The sweetening unit is located onshore at a gas processing plant. Construction Date = After August 23, 2011.
GRP-AU123	40 CFR Part 60, Subpart OOOO	60OOOO-AU	Construction/Reconstruction/Modification Date = After August 23, 2011, and on or before September 18, 2015.
CT	30 TAC Chapter 117, Subchapter B	R7201-TURB	Fuel Flow Monitoring = Fuel flow is with a totalizing fuel flow meter per 30 TAC §§ 117.140(a), 117.340(a) or 117.440(a). Megawatt Rating = MR is greater than or equal to 30 MW. CO Emission Limitation = Title 30 TAC § 117.310(c)(1). EGF System Cap Unit = The engine is used as an electric generating facility to generate electricity for sale to the electric grid. Averaging Method = Complying with the applicable emission limit using a 30-day rolling average. CO Monitoring System = Continuous emissions monitoring system complying with 30 TAC § 117.8100(a)(1). NH3 Emission Limitation = Title 30 TAC § 117.310(c)(2). NOx Reduction = Post combustion control technique with ammonia injection. Service Type = Stationary gas turbine. NH3 Monitoring = Oxidation of ammonia to nitric oxide (NO). NOx Emission Limitation = Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(10) or 117.310(a)(11). NOx Monitoring System = Continuous emissions monitoring system.
CT	40 CFR Part 60, Subpart KKKK	60KKKK-TURB	75% of Peak = The combustion turbine does not operate at less than 75% of peak load or at temperatures less than zero degrees F. Location = The turbine is not located in a noncontinental area nor in a continental area for which the Administrator has determined does not have access to natural gas and that the removal of sulfur compounds would do more environmental harm than benefit. Unit Type = Combined Heat and Power Combustion Turbine Construction/Modification Date = Turbine was constructed after February 18, 2005. SO <sub>2</sub> Standard = The heat input based SO <sub>2</sub> emission standard in § 60.4330(a)(2) or (a)(3) is being used. Fuel Monitoring = All fuels used are demonstrated not to exceed the potential emissions standard in § 60.4365. Heat Input = Turbine has a heat input at peak load of 850 MMBtu/hr or greater. Turbine Use = Turbine is used for electric generation. Fuel Quality = Fuel is demonstrated not to exceed emission standard by representative fuel sampling data.

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>NO<sub>x</sub> Control = NO<sub>x</sub> emissions are not being controlled by steam or water injection.</p> <p>Subject to Da = The combustion turbine is not located at an integrated gasification combined cycle electric utility steam generating unit subject to Subpart Da of Part 60.</p> <p>NO<sub>x</sub> Monitoring = A diluent NO<sub>x</sub> CEMS is used.</p> <p>Performance Test = Sulfur content of the fuel combusted in the turbine is being periodically determined.</p> <p>Service Type = Service other than emergency service, as defined in § 60.4420(i), or research and development.</p> <p>Common Steam Header = A steam header is not utilized.</p> <p>NO<sub>x</sub> Standard = The output-based NO<sub>x</sub> emission standard in Table 1 is being used.</p> <p>Duct Burner = The heat recovery system does not include a duct burner.</p> <p>Fuel Type = 100% natural gas.</p>
FUG-TREAT	30 TAC Chapter 115, HRVOC Fugitive Emissions	R5813-FUG	Title 30 TAC §115.780 Applicable = The fugitive unit does not contain a defined process or does not contain Highly Reactive VOC.
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGAGIT	<p>Agitators = The fugitive unit does not contain agitators.</p> <p>Title 30 TAC § 115.352 Applicable = Site is not a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process nor a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGCS	<p>Compressor Seals = The fugitive unit contains compressor seals.</p> <p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for compressor seals or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>50% by Volume = Compressors are not in hydrogen service or are in hydrogen service and the hydrogen content cannot be reasonably expected to always exceed 50% by volume.</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>Shaft Seal System = Compressors are equipped with a shaft sealing system that prevents or detects emission of VOC from the seal.</p> <p>TVP of Process Fluid VOC &lt;= 0.044 PSIA AT 68° F = Compressor seals do not contact a process fluid containing VOC having a true vapor pressures less than or equal to 0.044 psia at 68 degrees Fahrenheit.</p> <p>Complying With § 115.352(1) = Compressor seals are complying with the requirements in 30 TAC § 115.352(1).</p>

Unit ID	Regulation	Index Number	Basis of Determination*
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGFLGHVP	<p>Flanges = The fugitive unit contains flanges.</p> <p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for flanges or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Complying with 30 TAC § 115.352(1) = Flanges are complying with the requirements in 30 TAC § 115.352(1).</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>TVP of Process Fluid VOC <math>\leq</math> 0.044 PSIA AT 68° F = Flanges do not contact a process fluid containing VOC having a true vapor pressures less than or equal to 0.044 psia at 68 degrees Fahrenheit.</p> <p>TVP of Process Fluid VOC <math>&gt;</math> 0.044 PSIA AT 68° F = Flanges contact a process fluid containing VOC having a TVP greater than 0.044 psia at 68 degrees Fahrenheit.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGFLGLVP	<p>Flanges = The fugitive unit contains flanges.</p> <p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for flanges or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Complying with 30 TAC § 115.352(1) = Flanges are complying with the requirements in 30 TAC § 115.352(1).</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>TVP of Process Fluid VOC <math>\leq</math> 0.044 PSIA AT 68° F = Flanges contact a process fluid containing VOC having a true vapor pressures less than or equal to 0.044 psia at 68 degrees Fahrenheit.</p> <p>TVP of Process Fluid VOC <math>&gt;</math> 0.044 PSIA AT 68° F = Flanges do not contact a process fluid containing VOC having a TVP greater than 0.044 psia at 68 degrees Fahrenheit.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGOEVL	<p>Open-ended Valves = The fugitive unit does not contain open-ended valves.</p> <p>Title 30 TAC § 115.352 Applicable = Site is not a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process nor a natural gas/gasoline processing operation as</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			defined in 30 TAC 115.10.
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGPD	<p>Process Drains = The fugitive unit does not have process drains.</p> <p>Title 30 TAC § 115.352 Applicable = Site is not a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process nor a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGPRVHVP	<p>Pressure Relief Valves = The fugitive unit contains pressure relief valves.</p> <p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for pressure relief valves or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Complying With § 115.352(1) = Pressure relief valves are complying with § 115.352(1).</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>TVP of Process Fluid VOC <math>\leq</math> 0.044 psia at 68° F = No pressure relief valves contact a process fluid with a TVP of less than or equal to 0.044 psia at 68° F.</p> <p>TVP of Process Fluid VOC <math>&gt;</math> 0.044 psia at 68° F = Pressure relief valves contact a process fluid with a TVP <math>&gt;</math> 0.044 psia at 68° F.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGPRVLVP	<p>Pressure Relief Valves = The fugitive unit contains pressure relief valves.</p> <p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for pressure relief valves or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Complying With § 115.352(1) = Pressure relief valves are complying with § 115.352(1).</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>TVP of Process Fluid VOC <math>\leq</math> 0.044 psia at 68° F = Pressure relief valves contact a process fluid with a TVP of less than or equal to 0.044 psia at 68° F.</p> <p>TVP of Process Fluid VOC <math>&gt;</math> 0.044 psia at 68° F = No pressure relief valves contact a process fluid with a</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			TVP > 0.044 psia at 68° F.
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGPSHVP	<p>Pump Seals = The fugitive unit contains pump seals.</p> <p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for pump seals or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>Shaft Seal System = Pump seals are equipped with a shaft seal system that prevents or detects emission of VOC from the seal.</p> <p>TVP of Process Fluid VOC &lt;= 0.044 PSIA AT 68• ° F = Pump seals do not contact a process fluid containing VOC having a true vapor pressures less than or equal to 0.044 psia at 68 degrees Fahrenheit.</p> <p>Complying with 30 TAC § 115.352(1) = Pump seals are complying with the requirements in 30 TAC § 115.352(1).</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGPSLVP	<p>Pump Seals = The fugitive unit contains pump seals.</p> <p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for pump seals or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>Shaft Seal System = Pump seals are equipped with a shaft seal system that prevents or detects emission of VOC from the seal.</p> <p>TVP of Process Fluid VOC &lt;= 0.044 PSIA AT 68• ° F = Pump seals contact a process fluid containing VOC having a true vapor pressures less than or equal to 0.044 psia at 68 degrees Fahrenheit.</p> <p>Complying with 30 TAC § 115.352(1) = Pump seals are complying with the requirements in 30 TAC § 115.352(1).</p>
FUG-TREAT	30 TAC Chapter 115,	R5312-FUGRD	Rupture Disks = The fugitive unit has pressure relief valves equipped with rupture disks.

Unit ID	Regulation	Index Number	Basis of Determination*
	Pet. Refinery & Petrochemicals		<p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Instrumentation Systems = The fugitive unit does not have instrumentation systems, as defined in 40 CFR § 63.161, that meet 40 CFR § 63.169.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Sampling Connection Systems = The fugitive unit does not have sampling connection systems, as defined in 40 CFR § 63.161, that meet 40 CFR § 63.169.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>TVP 0.002 PSIA or Less = The fugitive unit does not have components or systems that contact a process fluid containing VOC having a true vapor pressure less than or equal to 0.002 psia at 68 degrees Fahrenheit.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGVLVHVP	<p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Valves (other than pressure relief and open-ended) = The fugitive unit contains valves other than pressure relief valves or open-ended valves or lines.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for valves or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Complying with § 115.352(1) = Valves are complying with § 115.352(1).</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>TVP of Process Fluid VOC ≤ 0.044 psia at 68° F = No valves contact a process fluid with a TVP less than or equal to 0.044 psia at 68° F.</p> <p>TVP of Process Fluid VOC &gt; 0.044 psia at 68° F = Valves contact a process fluid with a TVP greater than 0.044 psia at 68° F.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGVLVLVP	<p>Title 30 TAC § 115.352 Applicable = Site is a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process or a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p> <p>Valves (other than pressure relief and open-ended) = The fugitive unit contains valves other than pressure relief valves or open-ended valves or lines.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternate method for</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			<p>demonstrating and documenting continuous compliance with an alternate control requirement or exemption criteria for valves or no alternate has been requested.</p> <p>Less Than 250 Components at Site = Fugitive unit not located at site with less than 250 fugitive components.</p> <p>Weight Percent VOC = All components contact a process fluid that contains greater than or equal to 1.0% VOC by weight.</p> <p>Complying with § 115.352(1) = Valves are complying with § 115.352(1).</p> <p>Reciprocating Compressors Or Positive Displacement Pumps = The fugitive unit does not have reciprocating compressors or positive displacement pumps used in natural gas/gasoline processing operations.</p> <p>TVP of Process Fluid VOC <math>\leq</math> 0.044 psia at 68° F = Valves contact a process fluid with a TVP less than or equal to 0.044 psia at 68° F.</p> <p>TVP of Process Fluid VOC <math>&gt;</math> 0.044 psia at 68° F = No valves contact a process fluid with a TVP greater than 0.044 psia at 68° F.</p>
FUG-TREAT	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	R5312-FUGWPS	<p>Components Utilizing Alternative Work Practice in § 115.358 = No components in the fugitive unit are using the alternative work practice under § 115.358.</p> <p>Title 30 TAC § 115.352 Applicable = Site is not a petroleum refinery, synthetic organic chemical, polymer resin or methyl tert-butyl ether manufacturing process nor a natural gas/gasoline processing operation as defined in 30 TAC 115.10.</p>
FUG-TREAT	40 CFR Part 60, Subpart KKK	60KKK-FUG	<p>Facility Type = Affected facility is the group of all equipment except compressors within a process unit.</p> <p>Construction/Modification Date = After August 23, 2011.</p>
FUG-TREAT	40 CFR Part 60, Subpart OOOO	60OOOO-FUG	<p>Construction/Reconstruction/Modification Date = After August 23, 2011, and on or before September 18, 2015.</p> <p>Affected Facility Type = Group of equipment with a process unit, other than a compressor, not subject to 40 CFR Part 60, Subparts VVa, GGG or GGGa.</p>
FUG-TREAT	40 CFR Part 63, Subpart I	63I-FUG	PROCESS TYPE = Fugitive unit does not contain one of the processes listed in 40 CFR § 63.190(b)(1) - (6).
60V-89	30 TAC Chapter 115, Water Separation	R5113-WTRSEP	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Water separator does not qualify for exemption.</p> <p>Emission Control Option = Vapor recovery system which satisfies the provisions of 30 TAC § 115.131.</p> <p>Control Device = Control device or vapor recovery system other than a chiller, carbon adsorber, or incinerator.</p>
60V-89	40 CFR Part 63, Subpart VV	63VV-WTRSEP	Control = No subpart of 40 CFR Parts 60, 61, or 63 references the use of 40 CFR Part 63, Subpart VV for control of emissions from the separator.
GRP-STRMCEP	30 TAC Chapter 115, Water Separation	R5113-STRMSEP	<p>Alternate Control Requirement = The executive director (or the EPA Administrator) has not approved an ACR or exemption criteria in accordance with 30 TAC § 115.910.</p> <p>Exemption = Any single or multiple compartment VOC water separator which is designed solely to capture</p>

Unit ID	Regulation	Index Number	Basis of Determination*
			stormwater, spills, or exterior surface cleanup waters and is fully covered.
GRP-STRMCEP	40 CFR Part 63, Subpart VV	63VV-STRMSEP	Control = No subpart of 40 CFR Parts 60, 61, or 63 references the use of 40 CFR Part 63, Subpart VV for control of emissions from the separator.
GRP-LUBVENT	30 TAC Chapter 115, Vent Gas Controls	R5113-UCVENT	<p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p> <p>Combined 24-Hour VOC Weight = Combined VOC weight is less than or equal to 100 pounds (45.4 kg).</p> <p>VOC Concentration = VOC concentration is less than 612 ppmv.</p> <p>VOC Concentration/Emission Rate @ Max Operating Conditions = The VOC concentration or emission rate is less than the applicable exemption limit at maximum actual operating conditions and the alternate recordkeeping requirements of 30 TAC § 115.126(4) are being selected.</p>
GRP-PTFFLR	30 TAC Chapter 115, Vent Gas Controls	R5113-CVENT	<p>Alternate Control Requirement = Alternate control is not used.</p> <p>Chapter 115 Division = The vent stream does not originate from a source for which another Division in 30 TAC Chapter 115 establishes a control requirement, emission specification, or exemption for that source.</p> <p>Combustion Exhaust = The vent stream is not from a combustion unit exhaust or the combustion unit is used as a control device for a vent stream originating from a noncombustion source subject to 30 TAC Chapter 115, Subchapter B, Division 2.</p> <p>Control Device Type = Smokeless flare</p> <p>Vent Type = Title 30 TAC Chapter 115, Subchapter B, Vent Gas Control rules are applicable and the vent is not specifically classified under the rule.</p>
CS-CLEANER	30 TAC Chapter 115, Degreasing Processes	R5412-CSCLEANER	<p>Solvent Degreasing Machine Type = Cold solvent cleaning machine.</p> <p>Alternate Control Requirement = The TCEQ Executive Director has not approved an alternative control requirement as allowed under 30 TAC § 115.413 or not alternative has been requested.</p> <p>Solvent Sprayed = A solvent is sprayed.</p> <p>Solvent Vapor Pressure = Solvent vapor pressure is less than or equal to 0.6 psia as measured at 100 degrees Fahrenheit.</p> <p>Solvent Heated = The solvent is not heated to a temperature greater than 120° F.</p> <p>Parts Larger than Drainage = Cleaned parts for which the machine is authorized to clean are larger than the internal drainage facility of the machine.</p> <p>Drainage Area = Area is greater than or equal to 16 square inches.</p> <p>Disposal in Enclosed Containers = Waste solvent is properly disposed of in enclosed containers.</p>

\* - The "unit attributes" or operating conditions that determine what requirements apply



## NSR Versus Title V FOP

The state of Texas has two Air permitting programs, New Source Review (NSR) and Title V Federal Operating Permits. The two programs are substantially different both in intent and permit content.

NSR is a preconstruction permitting program authorized by the Texas Clean Air Act and Title I of the Federal Clean Air Act (FCAA). The processing of these permits is governed by 30 Texas Administrative Code (TAC) Chapter 116.111. The Title V Federal Operating Program is a federal program authorized under Title V of the FCAA that has been delegated to the state of Texas to administer and is governed by 30 TAC Chapter 122. The major differences between the two permitting programs are listed in the table below:

NSR Permit	Federal Operating Permit(FOP)
Issued Prior to new Construction or modification of an existing facility	For initial permit with application shield, can be issued after operation commences; significant revisions require approval prior to operation.
Authorizes air emissions	Codifies existing applicable requirements, does not authorize new emissions
Ensures issued permits are protective of the environment and human health by conducting a health effects review and that requirement for best available control technology (BACT) is implemented.	Applicable requirements listed in permit are used by the inspectors to ensure proper operation of the site as authorized. Ensures that adequate monitoring is in place to allow compliance determination with the FOP.
Up to two Public notices may be required. Opportunity for public comment and contested case hearings for some authorizations.	One public notice required. Opportunity for public comments. No contested case hearings.
Applies to all point source emissions in the state.	Applies to all major sources and some non-major sources identified by the EPA.
Applies to facilities: a portion of site or individual emission sources	One or multiple FOPs cover the entire site (consists of multiple facilities)
Permits include terms and conditions under which the applicant must construct and operate its various equipment and processes on a facility basis.	Permits include terms and conditions that specify the general operational requirements of the site; and also include codification of all applicable requirements for emission units at the site.
Opportunity for EPA review for Federal Prevention of Significant Deterioration (PSD) and Nonattainment (NA) permits for major sources.	Opportunity for EPA review, Affected states review, and a Public petition period for every FOP.
Permits have a table listing maximum emission limits for pollutants	Permit has an applicable requirements table and Periodic Monitoring (PM) / Compliance Assurance Monitoring (CAM) tables which document applicable monitoring requirements.
Permits can be altered or amended upon application by company. Permits must be issued before construction or modification of facilities can begin.	Permits can be revised through several revision processes, which provide for different levels of public notice and opportunity to comment. Changes that would be significant revisions require that a revised permit be issued before those changes can be operated.
NSR permits are issued independent of FOP requirements.	FOP are independent of NSR permits, but contain a list of all NSR permits incorporated by reference

## New Source Review Requirements

Below is a list of the New Source Review (NSR) permits for the permitted area. These NSR permits are incorporated by reference into the operating permit and are enforceable under it. These permits can be found in the main TCEQ file room,

located on the first floor of Building E, 12100 Park 35 Circle, Austin, Texas. The Public Education Program may be contacted at 1-800-687-4040 or the Air Permits Division (APD) may be contacted at 1-512-239-1250 for help with any question.

Additionally, the site contains emission units that are permitted by rule under the requirements of 30 TAC Chapter 106, Permits by Rule. The following table specifies the permits by rule that apply to the site. All current permits by rule are contained in Chapter 106. Outdated 30 TAC Chapter 106 permits by rule may be viewed at the following Web site:

[www.tceq.texas.gov/permitting/air/permitbyrule/historical\\_rules/old106list/index106.html](http://www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/old106list/index106.html)

Outdated Standard Exemption lists may be viewed at the following Web site:

[www.tceq.texas.gov/permitting/air/permitbyrule/historical\\_rules/oldselist/se\\_index.html](http://www.tceq.texas.gov/permitting/air/permitbyrule/historical_rules/oldselist/se_index.html)

The status of air permits and applications and a link to the Air Permits Remote Document Server is located at the following Web site:

[www.tceq.texas.gov/permitting/air/nav/air\\_status\\_permits.html](http://www.tceq.texas.gov/permitting/air/nav/air_status_permits.html)

#### New Source Review Authorization References

Nonattainment (NA) Permits	
NA Permit No.: N170	Issuance Date: 05/21/2015
Title 30 TAC Chapter 116 Permits, Special Permits, and Other Authorizations (Other Than Permits By Rule, PSD Permits, or NA Permits) for the Application Area.	
Authorization No.: 104840	Issuance Date: 05/21/2015
Permits By Rule (30 TAC Chapter 106) for the Application Area	
Number: 106.352	Version No./Date: 11/22/2012
Number: 106.454	Version No./Date: 11/01/2001
Number: 106.472	Version No./Date: 09/04/2000
Number: 106.511	Version No./Date: 09/04/2000
Number: 106.532	Version No./Date: 09/04/2000

#### Emission Units and Emission Points

In air permitting terminology, any source capable of generating emissions (for example, an engine or a sandblasting area) is called an Emission Unit. For purposes of Title V, emission units are specifically listed in the operating permit when they have applicable requirements other than New Source Review (NSR), or when they are listed in the permit shield table.

The actual physical location where the emissions enter the atmosphere (for example, an engine stack or a sand-blasting yard) is called an emission point. For New Source Review preconstruction permitting purposes, every emission unit has an associated emission point. Emission limits are listed in an NSR permit, associated with an emission point. This list of emission points and emission limits per pollutant is commonly referred to as the "Maximum Allowable Emission Rate Table", or "MAERT" for short. Specifically, the MAERT lists the Emission Point Number (EPN) that identifies the emission point, followed immediately by the Source Name, identifying the emission unit that is the source of those emissions on this table.

Thus, by reference, an emission unit in a Title V operating permit is linked by reference number to an NSR authorization, and its related emission point.

## **Monitoring Sufficiency**

Federal and state rules, 40 CFR § 70.6(a)(3)(i)(B) and 30 TAC § 122.142(c) respectively, require that each federal operating permit include additional monitoring for applicable requirements that lack periodic or instrumental monitoring (which may include recordkeeping that serves as monitoring) that yields reliable data from a relevant time period that are representative of the emission unit's compliance with the applicable emission limitation or standard. Furthermore, the federal operating permit must include compliance assurance monitoring (CAM) requirements for emission sources that meet the applicability criteria of 40 CFR Part 64 in accordance with 40 CFR § 70.6(a)(3)(i)(A) and 30 TAC § 122.604(b).

With the exception of any emission units listed in the Periodic Monitoring or CAM Summaries in the FOP, the TCEQ Executive Director has determined that the permit contains sufficient monitoring, testing, recordkeeping, and reporting requirements that assure compliance with the applicable requirements. If applicable, each emission unit that requires additional monitoring in the form of periodic monitoring or CAM is described in further detail under the Rationale for CAM/PM Methods Selected section following this paragraph.

## **Rationale for Compliance Assurance Monitoring (CAM)/ Periodic Monitoring Methods Selected**

### **Compliance Assurance Monitoring (CAM):**

Compliance Assurance Monitoring (CAM) is a federal monitoring program established under Title 40 Code of Federal Regulations Part 64 (40 CFR Part 64).

Emission units are subject to CAM requirements if they meet the following criteria:

1. the emission unit is subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement;
2. the emission unit uses a control device to achieve compliance with the emission limitation or standard specified in the applicable requirement; and
3. the emission unit has the pre-control device potential to emit greater than or equal to the amount in tons per year for a site to be classified as a major source.

The following table(s) identify the emission unit(s) that are subject to CAM:

<b>Unit/Group/Process Information</b>	
ID No.: GRP-PTFFLR	
Control Device ID No.: PTFFLARE	Control Device Type: Flare
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 115, Vent Gas Controls	SOP Index No.: R5113-CVENT
Pollutant: VOC	Main Standard: § 115.122(a)(1)
<b>Monitoring Information</b>	
Indicator: Pilot Flame	
Minimum Frequency: Continuous	
Averaging Period: n/a	
Deviation Limit: Absence of a pilot flame when a VOC containing gas stream is being vented to the flare shall be considered and reported as a deviation.	
Basis of CAM: It is widely practiced and accepted to monitor the flare pilot flame by closed circuit cameras, thermocouples and visual inspection. The presence of the pilot flame demonstrates that VOC emissions are combusted. Monitoring the presence of a pilot flame is required in many federal rules, including: 40 CFR Part 60, Subparts K, III, NNN, QQQ, and RRR; 40 CFR Part 61, Subparts BB and FF; and 40 CFR Part 63, Subparts G, R, W, DD, and HH.	

**Periodic Monitoring:**

The Federal Clean Air Act requires that each federal operating permit include monitoring sufficient to assure compliance with the terms and conditions of the permit. Most of the emission limits and standards applicable to emission units at Title V sources include adequate monitoring to show that the units meet the limits and standards. For those requirements that do not include monitoring, or where the monitoring is not sufficient to assure compliance, the federal operating permit must include such monitoring for the emission units affected. The following emission units are subject to periodic monitoring requirements because the emission units are subject to an emission limitation or standard for an air pollutant (or surrogate thereof) in an applicable requirement that does not already require monitoring, or the monitoring for the applicable requirement is not sufficient to assure compliance:

Unit/Group/Process Information	
ID No.: CS-CLEANER	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Degreasing Processes	SOP Index No.: R5412-CSCLEANER
Pollutant: VOC	Main Standard: § 115.412(1)
Monitoring Information	
Indicator: Visual Inspection	
Minimum Frequency: Monthly	
Averaging Period: n/a	
Deviation Limit: Any monitoring data which indicates that the cold cleaner is not in compliance with the applicable requirements of 30 TAC §115.412(1)(A)-(F) shall be considered and reported as a deviation.	
Basis of monitoring: The monitoring option to cover cold cleaner or the open-top vapor cleaner was included in the EPA "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources. In addition to covering the cleaner records of monthly inspections of equipment is an effective way to ensure that the system is operating in accordance with its design.	

<b>Unit/Group/Process Information</b>	
ID No.: PTFOWT	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILWTRTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
<b>Monitoring Information</b>	
Indicator: Structural Integrity of the Pipe	
Minimum Frequency: Emptied and degassed	
Averaging Period: n/a	
Deviation Limit: It shall be considered and reported as a deviation if repairs to maintain the structural integrity of the fill pipe are not completed prior to refilling the storage vessel.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: PTFOWT	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILWTRTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
<b>Monitoring Information</b>	
Indicator: Record of Tank Construction Specifications	
Minimum Frequency: n/a	
Averaging Period: n/a	
Deviation Limit: Failure to keep a record of tank construction specifications that show fill pipe details when tank is loaded from top or from the side shall be considered and reported as a deviation.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: PTFOWT-T4	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILWTRTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
<b>Monitoring Information</b>	
Indicator: Structural Integrity of the Pipe	
Minimum Frequency: Emptied and degassed	
Averaging Period: n/a	
Deviation Limit: It shall be considered and reported as a deviation if repairs to maintain the structural integrity of the fill pipe are not completed prior to refilling the storage vessel.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	



Unit/Group/Process Information	
ID No.: PTFOWT-T4	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILWTRTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
Monitoring Information	
Indicator: Record of Tank Construction Specifications	
Minimum Frequency: n/a	
Averaging Period: n/a	
Deviation Limit: Failure to keep a record of tank construction specifications that show fill pipe details when tank is loaded from top or from the side shall be considered and reported as a deviation.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	

Unit/Group/Process Information	
ID No.: PTFSOT	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILCNDTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
Monitoring Information	
Indicator: Structural Integrity of the Pipe	
Minimum Frequency: Emptied and degassed	
Averaging Period: n/a	
Deviation Limit: It shall be considered and reported as a deviation if repairs to maintain the structural integrity of the fill pipe are not completed prior to refilling the storage vessel.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: PTFSOT	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILCNDTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
<b>Monitoring Information</b>	
Indicator: Record of Tank Construction Specifications	
Minimum Frequency: n/a	
Averaging Period: n/a	
Deviation Limit: Failure to keep a record of tank construction specifications that show fill pipe details when tank is loaded from top or from the side shall be considered and reported as a deviation.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	

<b>Unit/Group/Process Information</b>	
ID No.: PTFSOT-T4	
Control Device ID No.: N/A	Control Device Type: N/A
<b>Applicable Regulatory Requirement</b>	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILCNDTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
<b>Monitoring Information</b>	
Indicator: Structural Integrity of the Pipe	
Minimum Frequency: Emptied and degassed	
Averaging Period: n/a	
Deviation Limit: It shall be considered and reported as a deviation if repairs to maintain the structural integrity of the fill pipe are not completed prior to refilling the storage vessel.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	

Unit/Group/Process Information	
ID No.: PTFSOT-T4	
Control Device ID No.: N/A	Control Device Type: N/A
Applicable Regulatory Requirement	
Name: 30 TAC Chapter 115, Storage of VOCs	SOP Index No.: R5112-OILCNDTK1
Pollutant: VOC	Main Standard: § 115.112(e)(1)
Monitoring Information	
Indicator: Record of Tank Construction Specifications	
Minimum Frequency: n/a	
Averaging Period: n/a	
Deviation Limit: Failure to keep a record of tank construction specifications that show fill pipe details when tank is loaded from top or from the side shall be considered and reported as a deviation.	
<p>Basis of monitoring:</p> <p>The periodic monitoring option provided for emission units using a submerged fill pipe is location of the submerged fill pipe and structural integrity of the pipe. The location and the integrity of the pipe ensure that loading operations are controlled to prevent splash fill and reduce generated vapors; therefore, less emissions are released to the atmosphere. This approach was included as an option by the EPA in the "Periodic Monitoring Technical Reference Document" (April 1999) to monitor VOC sources.</p>	

## Compliance Review

1. In accordance with 30 TAC Chapter 60, the compliance history was reviewed on June 21, 2017.

Site rating: 0.00 / High Company rating: 0.91 / Satisfactory

(High < 0.10; Satisfactory ≥ 0.10 and ≤ 55; Unsatisfactory > 55)

2. Has the permit changed on the basis of the compliance history or site/company rating? .....No

## Site/Permit Area Compliance Status Review

1. Were there any out-of-compliance units listed on Form OP-ACPS? .....No

2. Is a compliance plan and schedule included in the permit? .....No

## Available Unit Attribute Forms

OP-UA1 - Miscellaneous and Generic Unit Attributes

OP-UA2 - Stationary Reciprocating Internal Combustion Engine Attributes

OP-UA3 - Storage Tank/Vessel Attributes

OP-UA4 - Loading/Unloading Operations Attributes

OP-UA5 - Process Heater/Furnace Attributes

OP-UA6 - Boiler/Steam Generator/Steam Generating Unit Attributes

OP-UA7 - Flare Attributes

OP-UA8 - Coal Preparation Plant Attributes

OP-UA9 - Nonmetallic Mineral Process Plant Attributes

OP-UA10 - Gas Sweetening/Sulfur Recovery Unit Attributes

OP-UA11 - Stationary Turbine Attributes

OP-UA12 - Fugitive Emission Unit Attributes

OP-UA13 - Industrial Process Cooling Tower Attributes

OP-UA14 - Water Separator Attributes

OP-UA15 - Emission Point/Stationary Vent/Distillation Operation/Process Vent Attributes

OP-UA16 - Solvent Degreasing Machine Attributes

OP-UA17 - Distillation Unit Attributes

OP-UA18 - Surface Coating Operations Attributes

OP-UA19 - Wastewater Unit Attributes

OP-UA20 - Asphalt Operations Attributes

OP-UA21 - Grain Elevator Attributes

OP-UA22 - Printing Attributes

OP-UA24 - Wool Fiberglass Insulation Manufacturing Plant Attributes

OP-UA25 - Synthetic Fiber Production Attributes

OP-UA26 - Electroplating and Anodizing Unit Attributes

OP-UA27 - Nitric Acid Manufacturing Attributes

OP-UA28 - Polymer Manufacturing Attributes

OP-UA29 - Glass Manufacturing Unit Attributes

OP-UA30 - Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mill Attributes

OP-UA31 - Lead Smelting Attributes

OP-UA32 - Copper and Zinc Smelting/Brass and Bronze Production Attributes

OP-UA33 - Metallic Mineral Processing Plant Attributes

OP-UA34 - Pharmaceutical Manufacturing

OP-UA35 - Incinerator Attributes

OP-UA36 - Steel Plant Unit Attributes

OP-UA37 - Basic Oxygen Process Furnace Unit Attributes

OP-UA38 - Lead-Acid Battery Manufacturing Plant Attributes

OP-UA39 - Sterilization Source Attributes

OP-UA40 - Ferroalloy Production Facility Attributes

OP-UA41 - Dry Cleaning Facility Attributes

OP-UA42 - Phosphate Fertilizer Manufacturing Attributes

OP-UA43 - Sulfuric Acid Production Attributes

OP-UA44 - Municipal Solid Waste Landfill/Waste Disposal Site Attributes

OP-UA45 - Surface Impoundment Attributes

OP-UA46 - Epoxy Resins and Non-Nylon Polyamides Production Attributes  
OP-UA47 - Ship Building and Ship Repair Unit Attributes  
OP-UA48 - Air Oxidation Unit Process Attributes  
OP-UA49 - Vacuum-Producing System Attributes  
OP-UA50 - Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas Combustion Device/Claus Sulfur Recovery Plant Attributes  
OP-UA51 - Dryer/Kiln/Oven Attributes  
OP-UA52 - Closed Vent Systems and Control Devices  
OP-UA53 - Beryllium Processing Attributes  
OP-UA54 - Mercury Chlor-Alkali Cell Attributes  
OP-UA55 - Transfer System Attributes  
OP-UA56 - Vinyl Chloride Process Attributes  
OP-UA57 - Cleaning/Depainting Operation Attributes  
OP-UA58 - Treatment Process Attributes  
OP-UA59 - Coke By-Product Recovery Plant Attributes  
OP-UA60 - Chemical Manufacturing Process Unit Attributes  
OP-UA61 - Pulp, Paper, or Paperboard Producing Process Attributes  
OP-UA62 - Glycol Dehydration Unit Attributes  
OP-UA63 - Vegetable Oil Production Attributes